

Appln. No. 09/704,050

Atty Docket No.:48452-048

AMENDMENTS TO THE DRAWINGS

Replace the current drawing sheets 14/17 to 17/17 with the attached replacement drawing sheets with the same numbers, thereby replacing FIG 14 with FIGS 14A and 14B and replacing FIG 15 with FIGS 15A and 15B.

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REMARKS

Applicants respectfully request favorable reconsideration of the above-captioned application as amended.

In this Amendment, claims 1-194 remain pending. Claims 1, 26, 32, 33, 37, 42, 46, 58, 63, 64, 68, 69, 73, 77, 89, 115, 125, 126, 134, 146, 152, 156 and 165 have been amended in terms which more clearly define the present invention. No new matter has been added. Claims 1, 46, 77, 89, 134 and 165 are the independent claims.

In the Office Action, claims 14 and 15 were objected to as spanning two pages. As shown above, replacement drawing sheets labeling these figures as 14A, 14B, 15A and 15B are being submitted and the specification has been amended to reflect the drawing changes. Approval is respectfully requested.

In the Office Action, certain of the claims were objected to as having faulty antecedent basis. As shown above, all these claims have been corrected to remove their informalities.

In addition, the Examiner requested clarification of certain terms in claims 12 and 26. Applicants respectfully note that the claim has been clarified by amendment. With regard to claim 12, Applicants respectfully submit that "explicit" and "implicit" file sharing are well known in the art.

In the Office Action, independent claims 1, 46, 77, 89, 134 and 165 and certain of their respective dependent claims were rejected as obvious over U.S. Patent No. 6,714,968 to Prust in view of Official Notice (e.g., separating access control from the content server). Others of the dependent claims, including claim 2, were rejected as obvious over Prust and the Official Notice in view of Slein et al., RFC 2291 (hereinafter "Slein"). Claims 18 and 106 were rejected as obvious over Prust, the Official Notice and Slein, further in view of U.S. Patent No. 6,578,069 to

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Hopmann et al. Still others of the dependent claims were indicated as being allowable if rewritten in proper independent form.

As shown above, Applicants have rewritten independent claims 1, 46, 77, 89, 134 and 165 in terms which more clearly define the present invention. Applicants respectfully submit that the amended independent claims, together with the dependent claims respectively dependent thereon, are patentably distinct from the cited prior art for the following reasons.

The present invention as defined in amended independent claim 1 is directed to a method for providing multi user file storage. The method comprises the steps of enabling each user of a pre-subscribed user group of one or more users to connect an arbitrary client node at an arbitrary geographic location to a remote file server node via a wide area network, and enabling each user of the pre-subscribed user group to access files of a file group at the remote file server node via the respective client node connected to the remote file server node via the wide area network. Importantly, this step of the method includes permitting more than one user of the pre-subscribed user group to access the *same* file of the file group at the remote file server node *simultaneously*.

The method further comprises maintaining the integrity of the files at the remote file server node by controlling each access to each of the files at the remote file server node so that each access to each the files at the remote file server node is performed, if at all, on a *respective portion* of the respective file as most recently updated at the remote file server node, thereby enabling all native operating system application programming interfaces to operate so that all multi-user applications accessing the files function as if the remote file server node, which stores the files, and client nodes, at which such multi-user applications execute, were on the same local area network. Finally, the method comprises delegating access control to a particular file of the group of files to an access control node.

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As a result of these steps, multiple users can access the same file simultaneously, but each can access only a respective portion thereof. Each user can work on his respective portion without interference and without being unaware of another user modifying the same portion. Accordingly, the integrity of the files is maintained.

Prust is directed to a method and system for seamless access to a remote storage server utilizing multiple access interfaces executing on the remote server. The Office Action indicates in paragraph 7 that Prust may permit multiple users to share the same file, suggesting that "by default this capability is supported due to the fact that there are a plurality of storage servers and virtual storage areas in the system of Fig. 2." Applicants respectfully disagree. Even if Prust contained the hardware to support this feature, which Applicants do not concede, it is respectfully submitted that this is insufficient to teach or suggest that the hardware is actually used to enable multiple users to share the same file, or that this use is contemplated. Applicants have found no teaching or suggest of this use in Prust. Moreover, Applicants have found no teaching or suggestion of the further feature of claim 1 wherein file integrity is maintained even if multiple users share the same file, by having each user access only a respective portion of the file. Applicants further note that these features are not found in the items of Official Notice cited in the Office Action.

Slein was cited as teaching some aspects of access control, while Hopmann et al. was cited as teaching off-line editing. Applicants have found no teaching or suggestion in either of these references that, alone or in combination, would remedy the above-noted deficiencies of Prust as a reference against the amended claims.

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Claim 89 is a system claim corresponding to amended method claim 1. Accordingly, Applicants respectfully submit that independent claims 1 and 89, together with the claims respectively dependent thereon, are patentably distinct from the cited prior art.

The present invention as defined in amended independent claim 46 is directed to a method that, like the method of amended claim 1, enables each user of the pre-subscribed user group to access the same file of the file group at the remote file server node simultaneously. Moreover, claim 46 further recites the steps of providing an interface for adapting file access at a particular client node by designating at the particular client node each accessible file of the file group as stored on a virtual storage device, and enabling access to the designated files in a fashion which is indistinguishable, by users of, and applications executing at, the particular client node, with access to one or more files stored on a physical storage device that is locally present at the particular client node, and delegating access control to a particular file of the group of files to an access control node. Applicants have been unable to find any teaching or suggestion of this combination of features in any of the cited prior art, either singly or in combination.

Claim 134 is a system claim corresponding to amended method claim 46. Accordingly, Applicants respectfully submit that independent claims 46 and 134, together with the claims respectively dependent thereon, are patentably distinct from the cited prior art.

The present invention as defined in amended independent claim 77 is directed to a method that, like the method of amended claim 1, enables each user of the pre-subscribed user group to access the same file of the file group at the remote file server node simultaneously. Moreover, claim 77 further recites the step of transferring an encrypted key from the remote file server node to a particular client node via a secure channel, the key being decryptable using an decryption function *not known locally at the remote file server node*, the decryption function

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being *also not known locally at any other client node usable by others of the pre-subscribed user group*.

Further, amended claim 77 recites the steps of decrypting the transferred key at the particular client node, using the key at the particular client node to decrypt information of a file downloaded from the remote file server node or to encrypt information of a file prior to uploading for storage at the remote file server node, and delegating access control to a particular file of the group of files to an access control node.

Applicants respectfully note that this decryption operation, wherein the decryption function is not known either at the remote file server node or *locally at any other client node usable by others of the pre-subscribed user group* is distinct from, and not suggested by, the convention key encryption schemes cited in the Office Action or described in the cited prior art. This feature, in combination with the above-noted features of the claim, provides an additional basis for patentable distinction.

Claim 165 is a system claim corresponding to amended method claim 77. Accordingly, Applicants respectfully submit that independent claims 77 and 165, together with the claims respectively dependent thereon, are patentably distinct from the cited prior art.

In view of the above amendments and remarks, it is respectfully submitted that claims 1-194 are patentably distinct from the cited prior art and are in proper form for allowance. Accordingly, the Examiner is respectfully requested to allow this application and pass this case to issue.

If any fee is due for this filing, please charge the LARGE ENTITY fee therefor to Deposit Account No. 16-2500 of the undersigned.

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Applicants' undersigned attorney may be reached by telephone at (212) 969-3314 or by facsimile at (212) 969-2900. Please direct all correspondence to Customer No. 21890 at the address provided below.

Respectfully submitted
PROSKAUER ROSE LLP
Attorneys for Applicants

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PROSKAUER ROSE LLP
1585 Broadway
New York, NY 10036

Tel: (212) 969-3000

By Abigail Cousins
Abigail F. Cousins
Reg. No. 29,292